

REMARKS

Claims 1 and 16 have been amended. Claims 21 and 22 have been canceled. In addition, Applicants acknowledge the allowability of claims 10-15. Claims 1 and 16 have been amended to correct typographical errors and for clarification purposes.

Examiner's Interview

During the interview on December 27, 2004, the Examiner clarified that the Office Action mailed on September 24, 2004 was not final. In addition, by stating that the no extension was necessary, the Examiner was referring to the decision to not restart the time to respond to the Office Action. The Examiner was not referring to extensions of time under 37 C.F.R. 1.136.

Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-9 and 16-22 under 35 U.S.C. § 103(a) as being unpatentable over Pant et al. (U.S. Patent No. 5,916,012). Applicants respectfully traverse. Applicants respectfully submit that the cited prior art does not disclose or suggest each and every feature of the claimed inventions. Consequently, Applicants respectfully submit that the Office has therefore failed to make a prima facie case of obviousness against the independent claims.

At the very least, Applicants respectfully submit that independent claims 1 and 16, as amended, include the feature of at least a portion of the second plurality of radial rows being outside the circumference of the wafer is not disclosed or suggested by the cited prior art references. The structure of Pant results in uniform polishing of a wafer surface by dispensing pressurized fluid against a support housing underlying a polishing pad. The support housing has multiple openings that dispense pressurized fluid to the underside of the polishing pad directly opposite the wafer. The reference further discloses that the multiple openings are arranged within a circumference of the wafer, such that the openings fully oppose the wafer. See Figures 3, 5, 6, 8 and text

of the detailed description. Applicants respectfully direct the Office to column 4, line 67 to column 5, line 6 which state as follows:

A circular center section 30 of platen 25a is positioned directly opposite wafer 11 to oppose the downward pressing force of the wafer 11 onto pad 15. The actual size of the center section 30 corresponds to the size of the wafer. Thus, if the wafer is 200 mm in diameter, then circular section 30 will be at least 200 mm in diameter so that it can fully oppose the wafer 11. (Emphasis Added.)

Applicants respectfully submit that Pant does not disclose or suggest at least a portion of the second plurality of radial rows being outside the circumference of the wafer. Thus, Applicants respectfully submit that the cited prior art reference does not provide a suggestion to include openings outside the circumference for polishing an area outside the circumference of the wafer.

In contrast, Applicants' independent claims 1 and 16 recite two sets of pressure sub regions of a platen. The inner set of pressure sub regions has radial rows that provide pressure to a polishing pad above the platen. Each inner pressure sub region is below the wafer and is *within* the circumference of the wafer. An outer set of pressure sub regions has radial rows that provide pressure to the polishing pad above the platen. Each outer pressure sub region is below the wafer and is *outside* the circumference of the wafer. Thus, while the independent claims recite radial rows inside and outside the circumference of the wafer, the reference only teaches and suggests openings within the circumference.

The Office has suggested that using a smaller wafer in the apparatus of Pant is a design choice and therefore obvious. Applicants respectfully traverse this suggestion. Applicants note that the cited prior art references do not disclose or suggest that applying polishing pressure to regions outside of the wafer can be used to control wafer polishing profiles. In addition, the Office is directed to the passage from Pant cited above and also to column 8, lines 61 to 64 of Pant which states as follows:

Essentially, since the active section of platen 25b is the central circular section 30, corresponding to the circular wafer 11, the four quadrants can each be described by analogy as a quarter of a "pie" section (A-D). (Emphasis Added.)

Again, Pant states that the central section 30 corresponds to the circular wafer 11. Consequently, Applicants respectfully submit that to use the device of Pant et al in combination with prior art wafers of smaller size would not have been a matter of design choice because both of the above cited passages from Pant indicate that the circular section 30 corresponds to the size of the wafer. Applicants respectfully submit that as shown in both of the cited passages from Pant cited above, Pant indicates that the actual size of the section 30 corresponds to the size of the wafer. According to MPEP section 2143.02, a proposed modification cannot change the principle of operation of a reference. Consequently, Applicants respectfully submit that because Pant clearly states that the central section 30 corresponds to the size of the wafer, the MPEP does not support a rejection which would change the principle of operation of the apparatus of Pant. Therefore, Applicants respectfully submit that the Office's suggestion that the device of Pant can be utilized with any sized wafers is not supported.

In addition, Pant discloses that if the wafer is 200 mm in diameter then circular section 30 will be at least 200 mm in diameter so that it can fully oppose the wafer, but Pant does not disclose or suggest that the at least a portion of the second plurality of radial rows is outside the circumference of the wafer. Therefore, because such a suggestion or disclosure is not shown in cited prior art, Applicants respectfully submit that the Office's suggestion is not based on the cited prior art teachings. Consequently, Applicants respectfully submit that all of the features of the claimed inventions are not disclose or suggested by the cited prior art references and respectfully request that the section 103 rejection be withdrawn. In addition, all of the dependent claims are submitted to be allowable for at least the reasons as the independent claims.

In addition, claims 1 and 16 have also been amended to correct typographical errors in the previous amendment filed with the RCE on August 6, 2004. As known to those skilled in the art of semiconductor processing, references such as, for example, a "200 mm wafer" and "300 mm wafer" refer to the diameter of the wafer.

Allowable claims

The Office has stated that claims 10-15 are allowable.

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Accordingly, Applicants respectfully submit that the pending claims are in condition for allowance. If the Examiner has any questions concerning the response, the Examiner is kindly requested to contact the undersigned at (408) 749-6900. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P238.CIP).

Respectfully submitted,
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A handwritten signature in black ink, appearing to read 'Edmund H. Mizumoto', with a long horizontal flourish extending to the right.

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